

What is claimed is:

- 1) A process for causing curing of an aqueous solution containing a water-soluble silicate comprising: contacting an aqueous solution of a silicate having the formula  $\text{SiO}_2/\text{M}_2\text{O}$  in which M is selected from the group consisting of: Li, Na, K, and  $\text{NR}_4$ , wherein each R is independently hydrogen or a  $\text{C}_1\text{-C}_{10}$  hydrocarbon group, with a liquid catalyst mixture that comprises glycerine carbonate and at least one other alkylene carbonate selected from the group consisting of: ethylene carbonate, propylene carbonate, and butylene carbonate.
- 2) A process according to claim 1 wherein said aqueous solution of a silicate contains between 10% and 90 % water based on the total weight of said aqueous solution of a silicate.
- 3) A process according to claim 1 wherein said liquid catalyst mixture is present in any amount between about 1 and 30% by weight based on the total combined weight of said liquid catalyst mixture and said aqueous solution of a silicate.
- 4) A process according to claim 3 wherein the ratio  $\text{SiO}_2/\text{M}_2\text{O}$  is any ratio in the range of between 4:1 and 1:4.
- 5) A process according to claim 4 wherein said at least one other alkylene carbonate comprises ethylene carbonate, wherein M is sodium, and wherein said liquid catalyst mixture has a freezing point that is below about 15 degrees centigrade.

- 6) A process according to claim 1 wherein said aqueous solution is contacted with an amount of liquid catalyst mixture that is equal to between about 1 and about 30 percent by weight based on the total amount of silicate solution
- 7) A process according to claim 6 wherein the amount of silicon present in said aqueous solution is any amount between about 20 and about 80 percent by weight based on the total weight of the aqueous solution.
- 8) A process according to claim 6 wherein the amount of silicon present in said aqueous solution is any amount between about 40 and about 60 percent by weight based on the total weight of the aqueous solution.
- 9) A process according to claim 6 wherein the amount of glycerine carbonate present in said liquid catalyst mixture is any amount between about 5 and about 95 % by weight based on the total weight of said liquid catalyst mixture.
- 10) A process according to claim 6 wherein the amount of glycerine carbonate present in said liquid catalyst mixture is any amount between about 20 and about 40 % by weight based on the total weight of said liquid catalyst mixture.

11) A process according to claim 6 wherein said liquid catalyst mixture comprises glycerine carbonate and ethylene carbonate, wherein ethylene carbonate is present in said liquid catalyst mixture in any amount between about 5 and about 95 % by weight based on the total weight of said liquid catalyst mixture.

12) A process according to claim 6 wherein said liquid catalyst mixture comprises glycerine carbonate and ethylene carbonate, wherein ethylene carbonate is present in said liquid catalyst mixture in any amount between about 60 and about 80 % by weight based on the total weight of said liquid catalyst mixture.

13) A process according to claim 6 wherein said liquid catalyst mixture comprises glycerine carbonate and propylene carbonate, wherein propylene carbonate is present in said liquid catalyst mixture in any amount between about 5 and about 95 % by weight based on the total weight of said liquid catalyst mixture.

14) A process according to claim 6 wherein said liquid catalyst mixture comprises glycerine carbonate and propylene carbonate, wherein propylene carbonate is present in said liquid catalyst mixture in any amount between about 60 and about 90 % by weight based on the total weight of said liquid catalyst mixture.

15) A process according to claim 6 wherein said liquid catalyst mixture comprises glycerine carbonate and butylene carbonate, wherein butylene carbonate is present in said liquid catalyst mixture in any amount between about 60 and about 90 % by weight based on the total weight of said liquid catalyst mixture.

16) A process according to claim 1 wherein said silicate is present in any concentration between about 50 and about 500 grams per liter of silicon in said aqueous solution.

17) In a process for causing curing of an aqueous solution containing a water-soluble silicate by addition of a liquid catalyst mixture comprising an alkylene carbonate to said aqueous solution, wherein said alkylene carbonate is selected from the group consisting of: ethylene carbonate, propylene carbonate, and butylene carbonate, and mixtures thereof, wherein the improvement comprises including an effective amount of glycerine carbonate in said liquid catalyst mixture to render said liquid catalyst mixture to have a freezing point that is below about 15 degrees centigrade.